

CLAIMS

1. A method for industrial production of high dispersed powders, where material to be pulverized is mixed with high pressure working gas into a gas-solids suspension, which is
5 through acceleration nozzles (8) conveyed to the pulverizing chamber of counterjet pulverizer (9) for autogenic pulverizing, **characterized** in that the pulverized gas-solids suspension is conveyed at least to one intermediate tank (12) in the pulverizing circle, where the gas is removed from the blend and solids collected into intermediate tank (12), which are returned to be pulverized together with new raw material till there is in the
10 equipment a wanted circulation load, whereafter the process continues so that as much material is removed from it as ready product is added to it.
2. A method according to claim 1 **characterized** in that the pulp density of solids collected into intermediate tank (12) is raised by means of a pressing screw conveyor (16)
15 before returning the solids to counterjet pulverizer (9).
3. A method according to claim 1 or 2 **characterized** in that material to be pulverized is fed to counterjet pulverizer (9) through double-valve feeder (3) and balancing tank (6), whereby in double-valve feeder (3) a feed pressure higher than the regular feed pressure
20 is used and the flow of counterjet pulverizer (9) working gas is broken or choked for a while, when the lower valve (5) of double-valve feeder is opened.
4. A method according to claim 3 **characterized** in that pulverizing is carried out at least in two counterjet pulverizers (9, 9a), whereby there is in one of them conventional
25 acceleration nozzles (8) and in the other acceleration nozzles furnished with gas outlet channels for effective pulverizing of high dispersed material.
5. A method according to claim 4 **characterized** in that for pressurizing and feeding of material to be pulverized two double-valve feeders (3, 3a) side by side are used, which
30 are synchronized so that the after-pressure left after release of material in one of the double-valve feeders (3, 3a) can be utilized as initial pressure of the other double-valve feeder (3, 3a) after receipt of new material.

6. A method according to any above claim **characterized** in that the end product removed from intermediate tank (12) is conveyed to separate mechanical classifier (18) outside the pulverizing circulation circle, where the greatest particles are separated from the end product and returned to intermediate tank (12) for an additional pulverizing circulation.

7. A method according to any above claim **characterized** in that in order to ensure the uniformity of the end product quality there is in the equipment a control unit, into which the limit values of the most important parameters of the pulverizing process, as the quantity of raw material, volume, pressure and temperature, of working gas, quantity of energy used for working gas pressurization and quantity of the circulation load are programmed.

8. A method according to any above claim **characterized** in that the pulverizing conditions are regulated so that there is in the end product a portion of particles aimed at in granular class 0,2 – 5 μm .

9. A method according to claim 8 **characterized** in that in the project the material to be pulverized is circulated 2 – 10 times, advantageously 4-7, in order to achieve the set granular class.

10. A method according to claim 6 **characterized** in that the coarse product separated by classifier (18) is returned to intermediate tank (12) as pneumatical transfer from intermediate tank (3, 3a) of the double-valve feeder after initial pressurizing by means of release gas.

11. A method according to any above claim **characterized** in that material pre-pulverized by a mechanical pulverizer is used as raw material.